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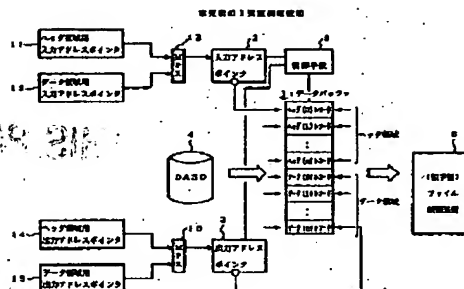
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(54) **DATA TRANSMISSION/RECEPTION EQUIPMENT** COPYRIGHT: (C)1998,JPO

(57) Abstract:

PROBLEM TO BE SOLVED: To attain the effective utilization of line by reducing overhead and throughput by providing an input address pointer and storing or extracting a header and data while switching a header record in the header area of data buffer and a data record in the data area.

SOLUTION: A data buffer 1 is provided with collected header and data areas and the common section of header can be used while being copied. When a transmission request is received, any header area is designated by an address pointer 2, the header is stored in that header record, only the peculiar information such as the header number of the next header is stored in the next header record, and data are stored in the data record of data area while switching the address pointer. At the time of transmission, the leading header is extracted from the header area, data are extracted from the data area, a packet is prepared and transmitted, the next header is extracted, the common part with the preceding header is copied, data are extracted while switching the address pointer, and the packet is prepared.



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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the data transmitter-receiver which transmits and receives the packet which consisted of a header and data.

[0002]

[Description of the Prior Art] It is made into a packet, and data is transmitted [conventionally, / the file control which transmits data is the basis of a configuration of being shown in (a) of drawing 8, and] and received between the host of the other party, or the terminal through the communication control unit 45. The configuration and actuation of drawing 8 are explained briefly below.

[0003] Drawing 8 shows explanatory drawing of the conventional technology. (a) of drawing 8 shows system configuration drawing. In (a) of drawing 8, HOST(1) 41 and HOST(2) 61 offer various services.

[0004] Channels 42 and 62 perform data transfer. file control 43 and 63 -- DASDs 44 and 64 -- accessing -- storing data or carrying out reading appearance **** -- a circuit -- minding -- transmitting to other hosts **** -- etc. -- it carries out.

[0005] DASDs 44 and 64 are disk units and are storage which carries out random access of the data. communication control units 45 and 65 -- a packet -- creating -- transmitting to a circuit or receiving a packet from a circuit **** -- etc. -- it carries out.

[0006] (b) of drawing 8 shows the important section of (a) of drawing 8. In (b) of drawing 8 file control 43 Data is read from DASD44 like a graphic display. Data (0), ... is added. (1) ... dividing -- respectively -- alike -- a header (0) and (1) -- a header (0) record data (0) record header (1) record data (1) record -- the sequence ... a record -- sequential storing -- carrying out -- a packet (0) and (1) -- generate ... the these-generated packet (0) and (1) ... is changed into circuit data by the line control function, and it transmits. In a receiving side, a communication control unit 65 takes out data from the packet which received in right sequence one by one conversely, and stores it in file control 63 at delivery and DASD at it.

[0007]

[Problem(s) to be Solved by the Invention] As mentioned above, the conventional file control 43 Since make a header and data into a pair, the required number is created, a communication control unit is requested and he was trying to transmit to the other party as shown in (b) of drawing 8, There was a problem of it being necessary to create all, an overhead (load) becoming large, and processing speed becoming slow although most portions of a header are contents common to each packet, and bringing a result which cannot use a circuit effectively.

[0008] Moreover, there was also a problem of data being divided, it being necessary to carry out at a header and a pair, and to transmit, or to extract and gather only data from the packet which received, and an overhead becoming large by these processings, and processing speed becoming slow, and bringing a result which cannot use a circuit effectively when dividing data into two or more data blocks, make it two or more packets, and transmitting or receiving.

[0009] In order that this invention may solve these problems, it prepares an input address pointer, switches the header record in the header field of a data buffer, and the data record in a data area, it stores, or takes out, transmits and receives a header and data, makes an overhead small, reduces a throughput, and aims at aiming at a deployment of a circuit.

[0010]

[Means for Solving the Problem] With reference to drawing 1 and drawing 5, The means for solving a technical problem is explained. that in which a data buffer 1 stores a header and data in drawing 1 and drawing 5 -- it is -- two or more header [here] (0) record and a header (1)

record -- a header field which consists of ..., and two or more data (0) records and a data (1) record -- it consists of data areas which consist of ...

[0011] A time of the input address pointer 2 storing data in a data buffer 1 -- a header (0) record in a header field of a data buffer 1, and a header (1) record -- a data (0) record in ... and a data area, and a data (1) record ... is switched and it points out.

[0012] the output address pointer 3 -- the time of transmission etc. -- a header (0) record in a header field of a data buffer 1, and a header (1) record -- a data (0) record in ... and a data area, and a data (1) record ... is switched and it points out.

[0013] A control means 6 performs various control. Next, actuation is explained. While a control means 6 stores in a header record of a head in a header field where a top header is created at the time of a carrier beam, and the input address pointer 2 points out a transmitting request and writes only proper information on the following header concerned in the following header record one by one Switch the input address pointer 2 to data record in a data area about carrier beam data, and sequential storing of the transmitting request is carried out from a head. The input address pointer 2 is switched to a header record in a header field at the time of transmission. A top header Ejection, After switching to data record in a data area, creating an ejection packet and transmitting top data, He is trying to repeat switching to the following header record in a header field, copying the common section of a header of an ejection this head, switching the following header concerned to data record in a data area, creating an ejection packet and transmitting the following data.

[0014] Moreover, it stores in a header record of a head in a header field which a control means 6 creates a top header for a transmitting request at the time of a carrier beam, and the input address pointer 2 points out. While copying common information on storing of proper information on the following header concerned, and a header of this head on the following header record Switch the input address pointer 2 to data record in a data area about carrier beam data, and sequential storing of the transmitting request is carried out from a head. The input address pointer 2 is switched to a header record in a header field at the time of transmission. A top header Ejection, After switching to data record in a data area, creating an ejection packet and transmitting top data, He is trying to repeat switching to the following header record in a header field, switching to ejection of the following header concerned, and data record in a data area, creating an ejection packet and transmitting the following data.

[0015] He is trying to form the output address pointer 3 which switches and picks out a header and data from a header record in a header field of a data buffer 1, and data record in a data area apart from the input address pointer 2 in these cases.

[0016] Moreover, he switches the input address pointer 2 to data record in a data area of a data buffer 1, and is trying to store carrier beam data for a transmitting request continuously.

[0017] Moreover, it switches to a repeat storing from a head of data record in a data area which takes out storing and data from a head of a header record in a header field which takes out a header of a packet and the input address pointer 2 points out, and the input address pointer 2 points out, when a control means 6 receives a packet, and the input address pointer 2 is switched to data record in a data area, and he gathers data continuously and he is trying to take it out from a head (he takes out and he

[0018] In this case, he is trying to form the output address pointer 3 which switches and picks out data from data record in a data area of a data buffer 1 apart from the input address pointer 2.

[0019] Therefore, it becomes possible by forming the input address pointer 2, switching a header record in a header field of a data buffer 1, and data record in a data area, and storing, or taking out, transmitting and receiving a header and data to make an overhead (load) small, to reduce a throughput and to aim at a deployment of a circuit.

[0020]

[Embodiment of the Invention] Next, the gestalt of operation of this invention and actuation

are explained to details one by one using drawing 7 from drawing 1.

[0021] Drawing 1 shows 1 example block diagram of this invention. In drawing 1, a data buffer 1 stores a header and data, and consists of data areas which consist of the header field and two or more data record which consist of two or more header records here.

[0022] the location (location of a fixed-length jump of predetermined) to which a header field is pointed out by the input address pointer 2 from a head like a graphic display -- a header (0) record and a header (1) record ... is prepared one by one and sequential storing of the header is carried out.

[0023] the location (location of a fixed-length jump of predetermined) to which a data area is pointed out by the input address pointer 2 from a head like a graphic display -- a data (0) record and a data (1) record ... is prepared one by one, and data is divided and stored. The header (i) record in a header field (1 i= two ... n) and the data (i) record in a data area are matched.

[0024] The output address pointer 3 is for picking out a header and data from the header record in a header field, and the data record in a data area. By forming the output address pointer 3 separately from the input address pointer 2, the input to a data buffer 1 and an output can be operated independently, and high-speed processing is attained.

[0025] DASD4 is a disk unit and is storage in which random access is possible. He picks out data from this DASD4, and is trying to transmit to the file control of the other party.

[0026] File control 5 is the file control of a transmission place. File control 5 has DASD which saves data. that a control means 6 performs various control and picks out a header and data from the header record in the header field of the data buffer 1 which stores a header and data in the header record in the header field of the data buffer 1 which the input address pointer 2 points out, and to carry out, or the data record in a data area, or the output address pointer 3 points out, or the data record in a data area here **** -- etc. -- various control is performed (it mentions later using drawing 2 thru/or drawing 4).

[0027] The input address pointer 11 for header fields stores the address which inputs the header which points out the header record in the header field of a data buffer 1. The input address pointer 12 for data areas stores the address which inputs the data which points out the data record in the data area of a data buffer 1.

[0028] MPX13 is a multiplexer, chooses the address of either the input address pointer 11 for header fields, or the input address pointer 12 for data areas, and sets it as the input address pointer 2.

[0029] The output address pointer 14 for header fields stores the address which takes out the data which points out the header record in the header field of a data buffer 1. The output address pointer 15 for data areas stores the address which takes out the data which points out the data record in the data area of a data buffer 1.

[0030] MPX16 is a multiplexer, chooses the address of either the output address pointer 14 for header fields, or the output address pointer 15 for data areas, and sets it as the output address pointer 3.

[0031] Next, actuation of the configuration of drawing 1 is explained to details according to the sequence shown in the flow chart of drawing 2. Drawing 2 shows the explanation flow chart of this invention of operation.

[0032] In drawing 2, S1 is switched to the header unit address pointer (input) of a packet. This is switched so that the head of the header record in a header field may be pointed out by the input address pointer 2 of drawing 1 (by MPX13, the input address pointer 11 for header fields is chosen, and the address is set up and switched to the input address pointer 2).

[0033] S2 stores a header from the start address of a header field. the header (1) record which a header (0) is stored in the header (0) record of the head in a header field, and follows it by this so that it may mention later by drawing 3, and a header (2) record ... each header (1) and (2) -- the information on a proper (for example, header number etc.) is able to be stored in ... a

header (1) and (2) ... although information common to (n) has copied information with a common header (0) by this example at the time of the transmission of drawing 4 mentioned later -- the header at the time of these S2 -- the header (0) record in the header field of a data buffer 1, and a header (1) record -- when stored in ..., it may be made to copy common information collectively (copy). [in addition,]

[0034] S3 is switched to the data-division address pointer (input) of a packet. This is switched so that the head of the data record in a data area may be pointed out by the input address pointer 2 of drawing 1 (by MPX13, the input address pointer 12 for data areas is chosen, and the address is set up and switched to the input address pointer 2).

[0035] S4 stores data from the start address of a data area. It means that data (0) was stored in the data (0) record of the head in a data area by this.

[0036] S5 is distinguished [predetermined packet part storing ending or]. In YES, processing termination is carried out. In NO, since the data of the following packet is stored, S3 or subsequent ones are repeated.

[0037] It means that follow the data record in a data area, data is gathered, a data transmitting request is stored at the time of a carrier beam while storing a header in the header record in a header field, and transmitting preparation had completed it by S1 to S5 of a more than. under the present circumstances, a top header (0) -- creating -- the header (0) record of the head in the header field of a data buffer 1 -- storing -- information with the following peculiar header - - creating -- a header (1) record and a header (2) record -- it is not necessary to carry out sequential setting out at ..., and to create common information, and a throughput can be reduced. Moreover, that what is necessary is to follow the data record in a data area and just to store, data lessens a throughput and can store it in the data area of a data buffer 1.

[0038] Next, according to the sequence shown in drawing 3, creation and storing of the header of S2 of drawing 2 are explained to details. Drawing 3 shows header creation / storing explanatory drawing of this invention.

[0039] (a) of drawing 3 shows header creation / storing flow chart of this invention. In (a) of drawing 3, S21 creates the header unit of a packet (0). S22 stores the header unit of a packet (0) in a data buffer. As indicated at the head of the header field of the data buffer 1 of (b) of drawing 3, these [S21 and S22] create header information (0), and store it in the head (header (0) record) of the header field of a data buffer 1.

[0040] S23 creates only the packet number section for the header unit of a packet (1). This creates only for example, the packet number section as peculiar information on a packet (1) (other portions copy the common information taken out from the packet (0) by S35 of drawing 4 at the time of the transmission which is common information and is later mentioned in this example to a packet (1)).

[0041] S24 stores the header unit of a packet (1) in a data buffer (header (1) record in the header field of a data buffer 1). S25 is distinguished [predetermined packet part storing ending or]. In YES, processing termination is carried out. In NO, it repeats about the header unit of return and the following packet S23.

[0042] (b) of drawing 3 shows the example of the content of details of a header field. The following information on a graphic display is stored in the portion (header (0) record) of a packet (0) in (b) of drawing 3.

[0043] - Header information (0) = header number 00 and header information (1) = destination address ... The information on a graphic display is similarly stored about the portion (header (1) record) of the following packet (1).

[0044] As explained above, create the header (0) of a packet and it stores in the header (0) record of the head of the header field of a data buffer 1. the following header (1) and (2) ... the information on a proper (for example, header number) -- creating -- a header (1) record and a header (2) record -- it is set as ... and common information is made into the null in this example (information common at the time of transmission is taken out from a header (0), and

is copied).

[0045] Drawing 4 shows the header copy flow chart of this invention. In drawing 4, S31 takes out the header unit of a packet (0). S32 -- creation [of a packet (0)] - it transmits.

[0046] S33 is distinguished [that a predetermined packet ends / processing / or]. In YES, processing termination is carried out. In NO, it progresses S34. S34 takes out the header unit of a packet (1).

[0047] S35 copies the common section to a packet (1) from a packet (0). the flow chart of drawing 3 which this mentioned already -- a header (1) and (2) -- about each header which set up only the information on a proper (for example, header number) about ..., common information is taken out from a header (0) and is set up, and a perfect header is created and it becomes possible to transmit. And it repeats about the following packet by S32.

[0048] By the above, the header (0) is thoroughly created about the header unit, and it is a header (1) and (2)... It becomes possible to attach, to set up only the information on a proper, to copy common information at the time of transmission, to transmit to it, to reduce creation of a header, and the throughput of storing as a whole, and to reduce overheads.

[0049] Next, the case where a packet is received using drawing 5 and drawing 6 is explained to details. Drawing 5 shows other example block diagrams (at the time of reception) of this invention. The configuration at the time of reception of this drawing 5 is a thing in case the flow of the packet of comparing with the configuration at the time of transmission of drawing 1, receiving a packet from the file control 5 of the other party, storing in a data buffer 1, and storing data in DASD4 collectively is reverse.

[0050] In drawing 5, a data buffer 1 stores a header and data, and consists of a header field and a data area here. A header field is the header (0) record of the location (location of a fixed-length jump of predetermined) to which it is pointed out by the input address pointer 2 from a head like a graphic display, and a header (1) record... It is a header (0) and (1) to a header (n) record.... It is the field which stores (n).

[0051] A data area is the data (0) record of the location (location of a fixed-length jump of predetermined) to which it is pointed out by the input address pointer 2 from a head like a graphic display, and a data (1) record... It is data (0) and (1) to a data (n) record... It is the field which stores (n). The header (i) record in a header field (1 i = two ... n) and the data (i) record in a data area are matched.

[0052] The output address pointer 3 is for picking out a header and data from the header record in a header field, and the data record in a data area. By forming the output address pointer 3 separately from the input address pointer 2, the input to a data buffer 1 and an output can be made independent, and high-speed processing is attained.

[0053] DASD4 is a disk unit and is a storage in which random access is possible. At this DASD4, the data transmitted from the file control 5 of the other party is taken out and saved.

[0054] File control 5 is the file control of the transmitting origin of the other party. DASD which saves data is given to file control 5, the data record in the data area of the data buffer 1 which a control means 6 performs various control, stores the header and DEDA which were taken out from the packet which received in the header record in the header field of the data buffer 1 which the input address pointer 2 points out, or the data record in a data area, or the output address pointer 3 points out to it here to data -- collecting -- storing in ejection DASD4 **** -- etc. -- various control performs (it mentions later using drawing 6).

[0055] The input address pointer 11 for header fields stores the address which inputs the header which points out the header record in the header field of a data buffer 1. The input address pointer 12 for data areas stores the address which inputs the data which points out the data record in the data area of a data buffer 1.

[0056] MPX13 is a multiplexer, chooses the address of either the input address pointer 11 for header fields, or the input address pointer 12 for data areas, and sets it as the input address pointer 2.

[0057] The output address pointer 14 for header fields stores the address which takes out the data which points out the header record in the header field of a data buffer 1. The output address pointer 15 for data areas stores the address which takes out the data which points out the data record in the data area of a data buffer 1.

[0058] MPX16 is a multiplexer, chooses the address of either the output address pointer 14 for header fields, or the output address pointer 15 for data areas, and sets it as the output address pointer 3.

[0059] Next, actuation of the configuration of drawing 5 is explained to details according to the sequence shown in the flow chart of drawing 6. Drawing 6 shows other explanation flow charts of this invention of operation.

[0060] In drawing 6, as for S40, a communication control unit receives a packet. The file control of S41 is in the waiting state waiting for receiving. S42 is switched to the header unit address pointer (input) of a packet. This is switched so that the head of the header record in a header field may be pointed out by the input address pointer 2 of drawing 5 (by MPX13, the input address pointer 11 for header fields is chosen, and the address is set up and switched to the input address pointer 2).

[0061] S43 stores a header from the start address of a header field. By this, a header (0) will be stored in the header (0) record of the head of a header field, and sequential storing will be carried out from a head like a header (1) at the 2nd time at a header (1) record.

[0062] S44 is switched to the data-division address pointer (input) of a packet. This is switched so that the head of the data record in a data area may be pointed out by the input address pointer 2 of drawing 5 (by MPX13, the input address pointer 12 for data areas is chosen, and the address is set up and switched to the input address pointer 2).

[0063] S45 stores data from the start address of a data area. By this, data (0) will be stored in the data (0) record of the head in a data area, and sequential storing will be carried out from a head like data (1) at the 2nd time at a data (1) record.

[0064] S46 distinguishes whether it received by the predetermined packet. In YES, processing termination is carried out. In NO, it returns and repeats S41. It becomes possible to reach one by one from the header record of the head in a header field, to pack a packet to the header and data which were received one by one from the data record of the head in a data area, respectively, and to store by S41 of a more than thru/or S46.

[0065] S47 is switched to the data-division address pointer (output) of a packet. This is switched so that the data record of the head in a data area may be pointed out by the output address pointer 3 of drawing 5 (by MPX16, the output address pointer 15 for data areas is chosen, and the address is set up and switched to the output address pointer 3).

[0066] S48 takes out data from the start address of a data area. S49 stores data in DASD. It becomes possible to gather data continuously from the data record of the head in the data area of the data buffer 1 of drawing 5, and to store in ejection and DASD4 by these [S48 and S49].

[0067] Since data puts and is stored from the data record of the head in the data area of a data buffer 1 by the above procedure of S47 to S49 when a packet is received, this is read in succession, and it can store in DASD4, and processes at a high speed, and it becomes possible to reduce overheads (load).

[0068] Drawing 7 shows system configuration drawing of this invention. This is drawing 1 and the concrete system configuration of the configuration of drawing 5. (a) of drawing 7 shows the whole system configuration drawing.

[0069] In (a) of drawing 7, HOST(1) 21 and HOST(2) 31 offer various services. Channels 22 and 32 perform data transfer.

[0070] file control 23 and 33 -- DASDs 24 and 34 -- accessing -- storing data or carrying out reading appearance **** -- a circuit -- minding -- transmitting to other hosts **** -- etc. -- it carries out.

[0071] DASDs 24 and 34 are disk units and are storage which carries out random access of the data. communication control units 25 and 35 -- a packet -- creating -- transmitting to a circuit or receiving a packet from a circuit **** -- etc. -- it carries out.

[0072] (b) of drawing 7 shows the important section concerning this invention. In (b) of drawing 7 file control 33 The header (0) record in the header field to which it is pointed out by the input address pointer 2 besides a graphic display as data is read from DASD34 and mentioned already in the data buffer 1 like a graphic display, A header (1) record, header (2) record ... Header (0), (1), (2) data (0) record in the data area to which ... is pointed out by storing and the input address pointer 2, a data (1) record, and a data (2) record ... switching -- data (0), (1), and (2) -- storing ... **** -- etc. -- it carries out. The header and data by which sequential storing was carried out generate a packet (0) with a header (0) and data (0) like a graphic display to the header field and data area of a data buffer 1. this generated packet (0), (1), and (2) ... is changed into circuit data by the line control function, and it transmits. In a receiving side, data is gathered with the configuration and procedure of drawing 5 and drawing 6 which were conversely mentioned already with a communication control unit and file control, and it stores in DASD34.

[0073]

[Effect of the Invention] As explained above, while writing only proper information in the header record of the head in the header field where a top header is created and the input address pointer 2 points out a transmitting request at the time of a carrier beam one by one at storing and the following header record according to this invention Switch the input address pointer 2 to the data record in a data area about carrier beam data, and sequential storing of the transmitting request is carried out from a head. After [which switches the input address pointer 2 to the header record in a header field at the time of transmission, and takes out a top header] reaching, switching to the data record in a data area, creating an ejection packet and transmitting top data, Since the configuration of switching to the following header record in a header field, switching the common section of the header of an ejection head for the following header to the next data record in a copy and a data area, taking out the following data, creating a packet, and transmitting is adopted, The input address pointer 2 is formed, the header record in the header field of a data buffer 1 and the data record in a data area can be switched, transmitted and received, a throughput is reduced, and an overhead (load) can be made small. These (1) Only the proper information on the header which creates the head of the header of a packet and follows it is created, and since common information was copied and it has transmitted, it becomes possible to reduce processings of header creation, to reduce overheads, to make processing speed quick, and to use a circuit effectively.

[0074] (2) Since the common section of creation of only the proper information on a header and a top header which creates the head of the header of a packet and follows it was copied and it has transmitted, it becomes possible to reduce processings of header creation, to reduce overheads, to make processing speed quick, and to use a circuit effectively.

[0075] (3) Since the input address pointer 2 and the output address pointer 3 are formed separately, process the input and output to a data buffer 1 independently, accelerate transmitting processing, and it becomes possible to use a circuit effectively.

[0076] (4) Since it continues at the time of a transmitting request and data is stored in the data record in the data area of a data buffer 1 at it, it becomes possible to transmit data at high speed at the time of transmission, to reduce overheads, to make processing speed quick, and to use a circuit effectively.

[0077] (5) Since it continues at the time of reception and data is stored in the data record in the data area of a data buffer 1 at it, data can be transmitted at high speed succeeding the time of transmitting the data received out of the data area of a data buffer 1 to DASD etc., and it becomes possible to reduce overheads.

[0078] (6) Since the input address pointer 2 and the output address pointer 3 are formed

separately, process the input and output to a data buffer 1 independently, accelerate reception, and it becomes possible to use a circuit effectively.

[Brief Description of the Drawings]

[Drawing 1] It is 1 example block diagram of this invention.

[Drawing 2] It is the explanation flow chart of this invention of operation.

[Drawing 3] It is header creation / storing explanatory drawing of this invention.

[Drawing 4] It is the header copy flow chart of this invention.

[Drawing 5] They are other example block diagrams (at the time of reception) of this invention.

[Drawing 6] They are other explanation flow charts of this invention of operation.

[Drawing 7] It is system configuration drawing of this invention.

[Drawing 8] It is explanatory drawing of the conventional technology.

[Description of Notations]

- 1: Data buffer
- 2: Input address pointer
- 3: Output address pointer
- 4, 24, 34: DASD (disk unit)
- 5: File control
- 6: Control means
- 23 33: File control
- 25 35: Communication control unit

[Claim(s)]

[Claim 1] A data transmitter-receiver which transmits and receives a header and a packet which consisted of data and which is characterized by providing the following A data buffer classified into a data area which consists of a header field which consists of two or more header records, and two or more data record A header record in a header field of this data buffer An address pointer which switches and specifies data record in a data area While storing in a header record of a head in the above-mentioned header field where the above-mentioned address pointer specifies a header of a head which created a transmitting request at the time of a carrier beam and storing only proper information on the following header concerned in the following header record A means which switches the above-mentioned address pointer to data record in the above-mentioned data area about carrier beam data, and carries out sequential storing of the transmitting request from top data record, After switching the above-mentioned address pointer to a header record in the above-mentioned header field at the time of transmission and taking out a top header, Switch an address pointer to data record in the above-mentioned data area, and an ejection packet is created for top data. Transmit, switch this address pointer to the following header record in the above-mentioned header field, copy the common section of a header of an ejection this head for the following header concerned, switch this address pointer to data record in the above-mentioned data area, and an ejection packet is created for the following data. A means to transmit

[Claim 2] A data transmitter-receiver which transmits and receives a header and a packet which consisted of data and which is characterized by providing the following A data buffer classified into a data area which consists of a header field which consists of two or more header records, and two or more data record A header record in a header field of this data buffer An address pointer which switches and specifies data record in a data area A header of

a head which created a transmitting request at the time of a carrier beam is stored in a header record of a head in the above-mentioned header field specified by the above-mentioned address pointer. While copying common information on storing of proper information on the following header concerned, and a header of this head on the following header record A means which switches the above-mentioned address pointer to data record in the above-mentioned data area about carrier beam data, and carries out sequential storing of the transmitting request from top data record, After switching the above-mentioned address pointer to a header record in the above-mentioned header field at the time of transmission and taking out a top header, After switching this address pointer to data record in the above-mentioned data area, creating an ejection packet, transmitting top data, switching this address pointer to the following header record in the above-mentioned header field and the following header concerned taking out, A means to switch this address pointer to data record in the above-mentioned data area, to create an ejection packet and to transmit the following data [Claim 3] Claim 1 characterized by preparing the 2nd address pointer which switches and specifies a header record in the above-mentioned header field of the above-mentioned data buffer, and data record in the above-mentioned data area apart from the above-mentioned address pointer when taking out a header and data from the above-mentioned data buffer, or a data transmitter-receiver according to claim 2.

[Claim 4] Claim 1 characterized by switching the above-mentioned address pointer to data record in a data area of the above-mentioned data buffer, and storing carrier beam data for a transmitting request continuously thru/or one of data transmitter-receivers according to claim 3.

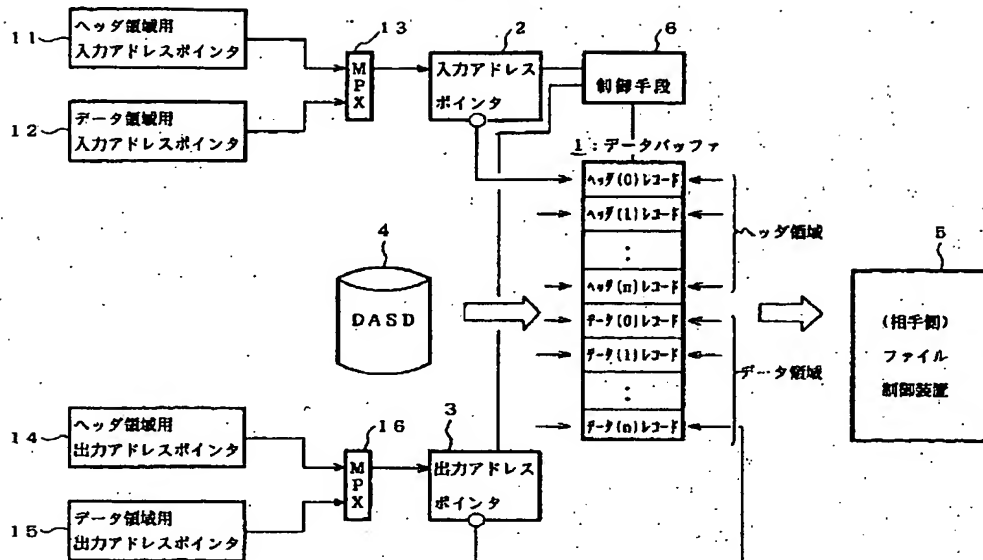
[Claim 5] A data transmitter-receiver which transmits and receives a header and a packet which consisted of data and which is characterized by providing the following A data buffer classified into a data area which consists of a header field which consists of two or more header records, and two or more data record A header record in a header field of this data buffer An address pointer which switches and specifies data record in a data area A means to store from a head of data record in the above-mentioned data area which takes out data of this packet and the above-mentioned address pointer specifies while storing from a head of a header record in the above-mentioned header field which takes out a header of the packet concerned and the above-mentioned address pointer specifies, when a packet is received, and a means which switches the above-mentioned address pointer to data record in a data area, and takes out data from a head continuously

[Claim 6] A data transmitter-receiver according to claim 5 characterized by preparing the 2nd address pointer which switches and specifies data record in the above-mentioned data area of the above-mentioned data buffer apart from the above-mentioned address pointer when taking out data from the above-mentioned data buffer.

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[Drawing 1]

本発明の1実施例構成図

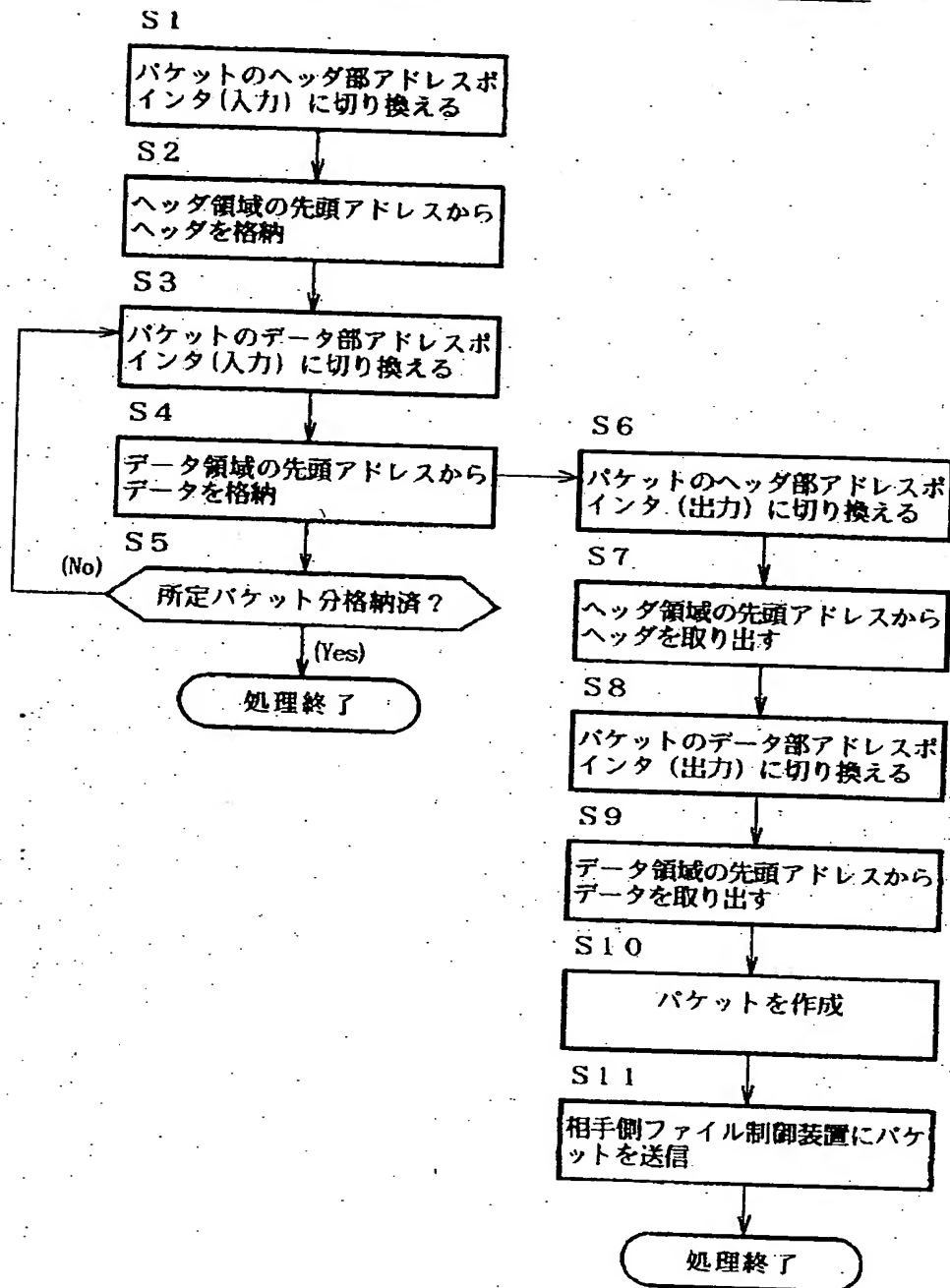


[Drawing 2]

本発明の動作説明フローチャート

ファイル制御装置

回線制御装置

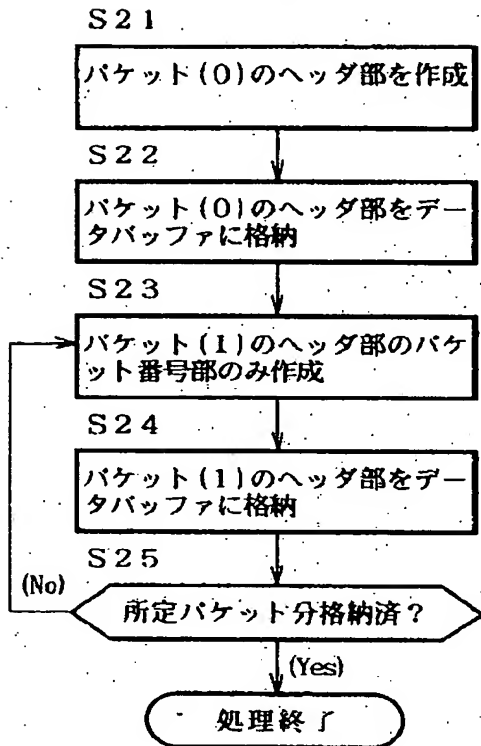


[Drawing 3]

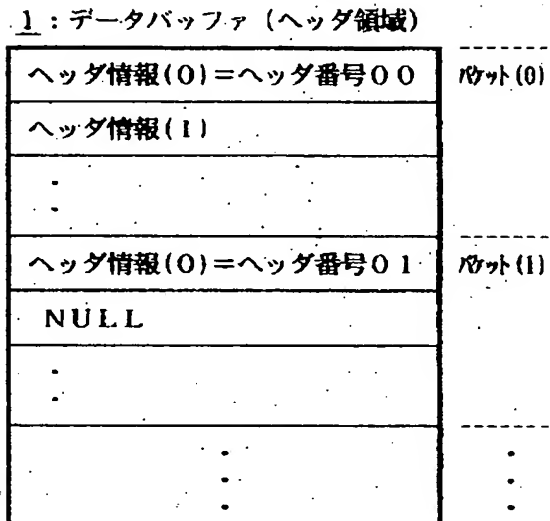
本発明のヘッダ作成／格納説明図

(a)

ファイル制御装置

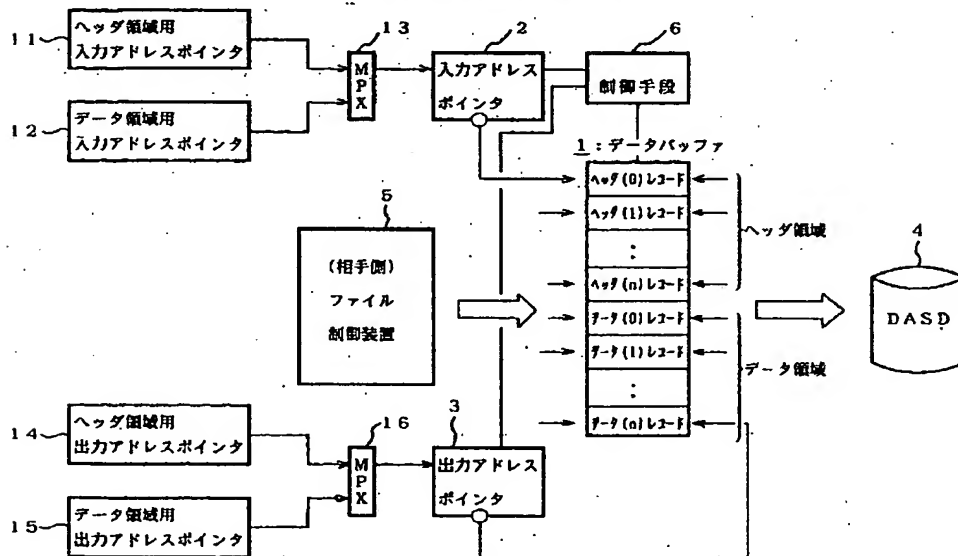


(b) ヘッダ領域の詳細内容例



[Drawing 5]

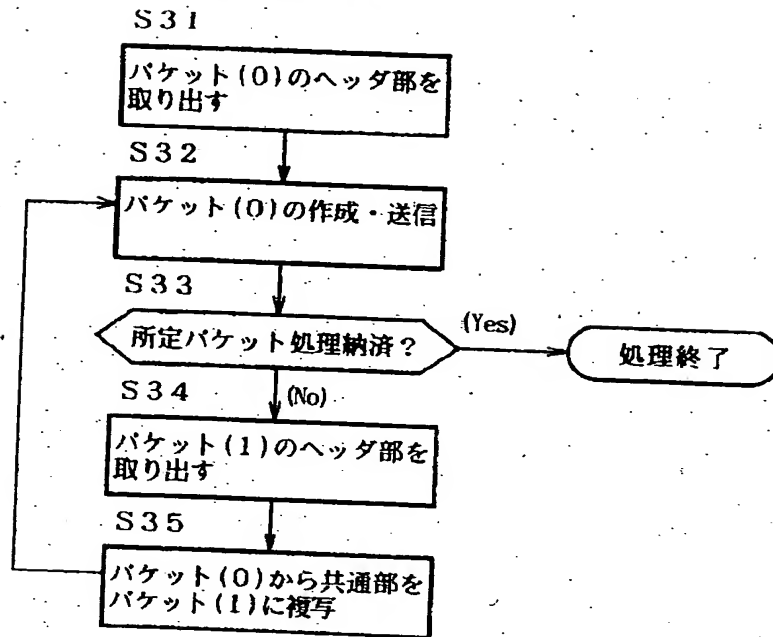
本発明の他の実施例構成図 (受信時)



[Drawing 4]

本発明のヘッダ複写フローチャート

ファイル制御装置

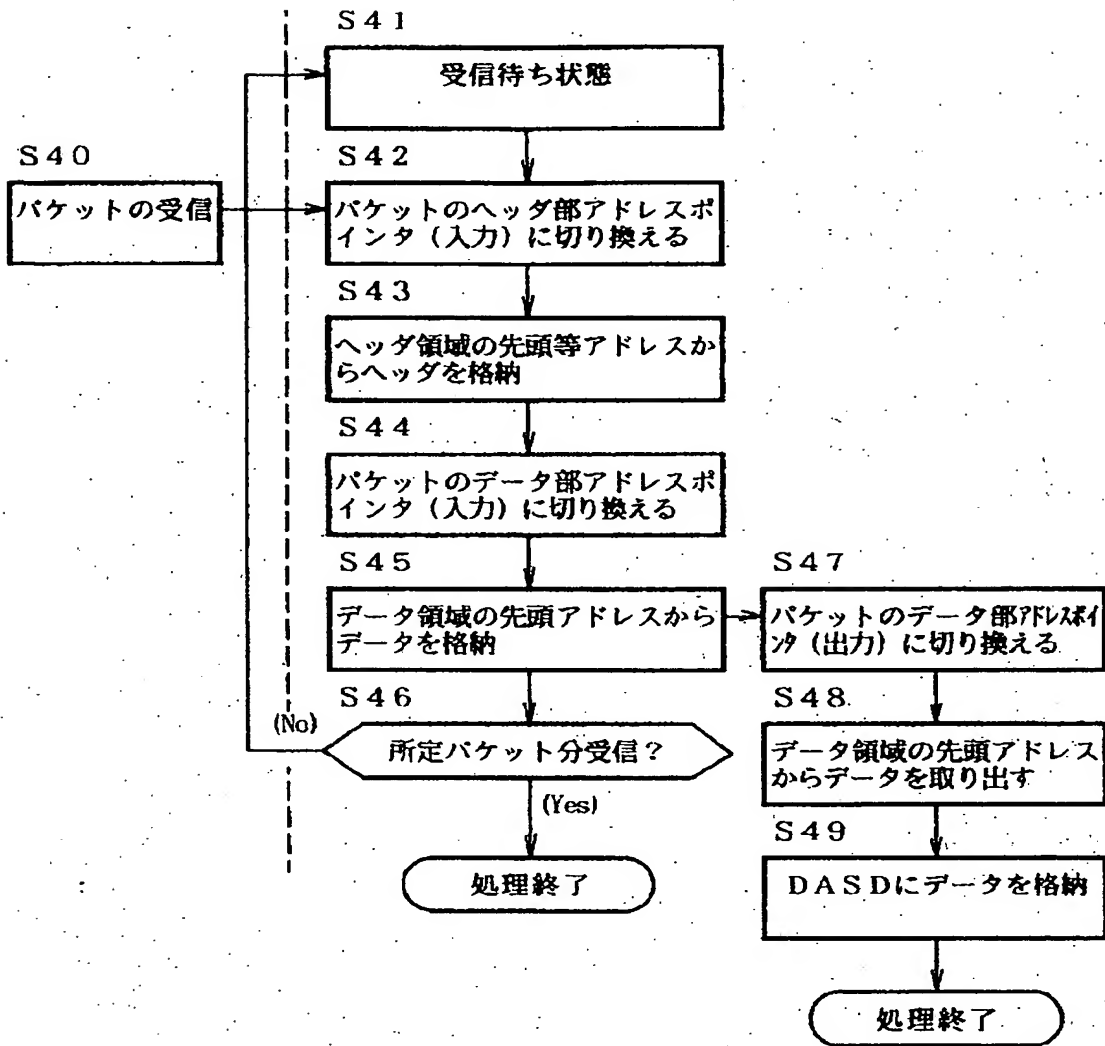


[Drawing 6]

本発明の他の動作説明フローチャート

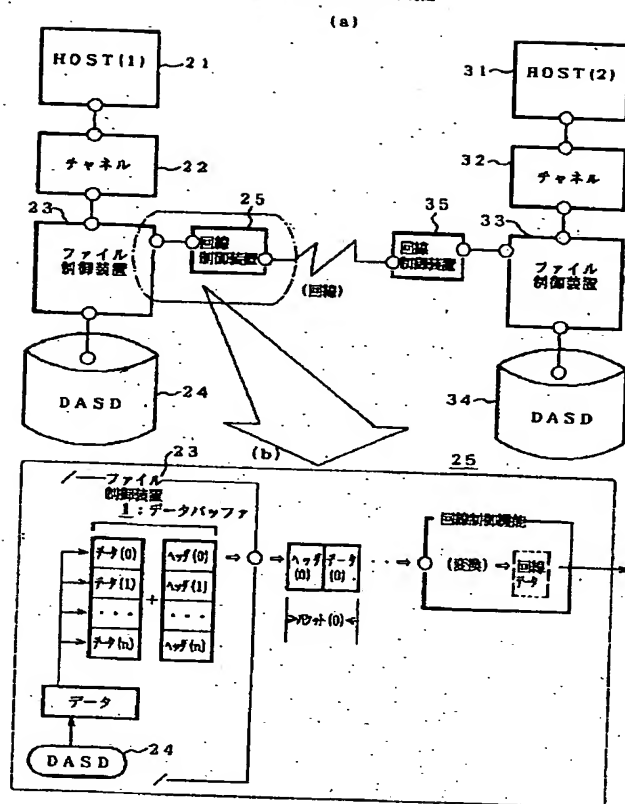
回線制御装置

ファイル制御装置



[Drawing 7]

本発明のシステム構成図



[Drawing 8]

従来技術の説明図

